

PRINT SERVER

802.11b Wireless Print Server

PM111UW
PM111PW

Instruction Guide



* Actual product may vary from photo

* PM111PW shown

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FCC COMPLIANCE STATEMENT

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

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Introduction

Thank you for purchasing a StarTech.com one-port 802.11b wireless print server. This external USB (PM111UW) or parallel (PM111PW) print server lets you place your printers or plotters onto your network wirelessly, easily accessible to all your networked computers. With web-based management and SNMP support, the print server is easy to install and configure. The print server works with a wide range of operating systems and is light-weight and compact to help you save space as well as time.

Features

- Wirelessly shares one printer with computers connected to a home or small office network
- Supports SNMP for remote printer management and works with any SNMP-based application
- Eliminates the need to purchase additional printers for individual workstations
- Configurable using a web-based browser or a Windows-based configuration
- Supports 802.11b wireless network specifications
- Works with Novell NetWare 3.12, 4.x, 5.x (Bindery, NDS, NDPS), Windows 95/98/Me/NT/2000/XP/Server 2003, Apple EtherTalk (Postscript printer only), or UNIX/Linux

Before You Begin

To ensure a quick and easy installation, please read through this section carefully before attempting to install the print server.

System Requirements

- A printer with a USB (PM111UW) or parallel (PM111PW) port
- An 802.11b-enabled wireless network (either an 802.11b wireless access point or 802.11b wireless adapter cards)
- A PC running Windows 95/98/Me/2000/XP

Package Contents

- 1 x wireless print server
- 1 x external power adapter
- 1 x driver disk

Hardware Installation

Note: To use the wireless print server, you must have either an 802.11b wireless access point or computers equipped with 802.11b wireless adapters on your network. These instructions assume you have already installed your other 802.11b network devices.

1. Make sure that your printer is turned off.
2. **PM111UW:** Use a USB cable to connect the printer server to the printer.
PM111PW: Plug the print server directly into your printer.
3. Plug the power adapter into the power port on the print server and plug the other end into an external power source. The Status LED on the server should flash momentarily, then remain solid.
4. Turn on your printer.

Note: If you have set up your wireless network in infrastructure mode using a **wireless access point**, set the switch on the print server to **Normal** and follow the instructions on the following page. If you are using peer-to-peer Ad Hoc connections on your network or the printer server can not be found during the software installation, set the switch to **Diagnostic** and follow the instructions on **page 11**.

Resetting the Print Server Settings

If at any time you want to reset to the default values of the print server, press and hold the Reset button for at least 10 seconds until the status LED flashes four times.

Software Installation

The initial installation program must be run from a Windows PC. You will have the choice of either using the Setup Wizard or performing a Manual Install. The Setup Wizard lets you get your print server up and running quickly. Manual Installation installs the PSAdmin software that allows you to configure and manage your print server in NetWare environments.

Note: Depending on your operating system and the firmware version you are running, the following instructions may not be identical to what you see on your screen.

The Setup Wizard

Note: The following instructions assume you have the print server set to Normal mode and are using a wireless access point (i.e., Infrastructure mode). If there is not a wireless access point and you are using Ad Hoc wireless communications, see “**Diagnostic Mode**” on page 11.

1. Insert the driver disk into your disk drive.
2. The Autorun program should automatically start. If the setup program does not start automatically, run **Autorun.exe** in the root folder from the driver disk.
3. Choose **Setup Wizard**.

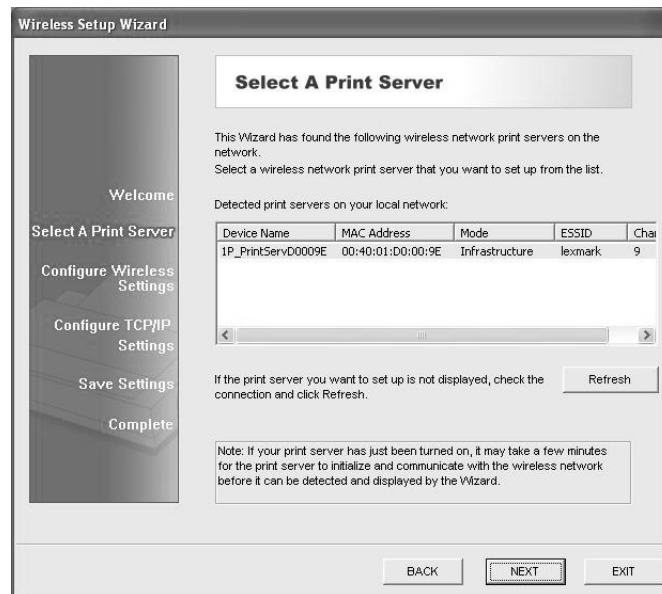


- After installation completes, the Setup Wizard message appears. Click on **Wireless Setup Wizard**.



- On the Welcome screen click **Next**. The Wizard will automatically discover the print server and bring up the Select A Print Server screen. This screen displays information about your print server's IP address, MAC address, port number and status. Click **Next** again.

Note: If your print server is not discovered, try clicking the **Refresh** button. If your print server is still not discovered after frequent refreshes, see “**Diagnostic Mode**” on page 11.



6. If you want to configure the print server's IP address, choose "Yes, I want to change settings" (leave the password field blank) and click **Next**. If not, choose "No, I don't want to change settings" and click **Next**. If you chose No, skip ahead to Step 10.

Note: In order to use some features of the print server (like the embedded web server), you will need to know the IP address of the print server. It is recommended that you choose to specify an IP address to your print server.

7. You are now on the Basic Wireless Settings screen.

- In the **Communication Type** field, choose between Infrastructure, Ad-Hoc, or 802.11b Ad-Hoc. (Most adapters will work with 802.11b Ad-Hoc mode. Ad-Hoc mode is only for Intersil Prism 2.0 adapters)
- In the **SSID** field, enter the SSID for your wireless network. The default value is <any>, which will connect you to the access point that has the best signal in your wireless network.
- In the **Channel Number** field, select the channel for your wireless network (optional).
- In the **Data Transmit Rate** field, choose between Auto (best available), 1, 2, 5.5 or 11 Mbits/sec.

When you are satisfied with your wireless communication settings, click **Next**.

8. You are now on the Security and WEP Encryption settings page.

Wireless Setup Wizard

Security and WEP Encryption Settings

Configure the following security settings on the print server. These settings must match your wireless network for the network print server to communicate with all computers over a wireless connection.

☐ Enable WEP Encryption

Type: ☒ 64-bit ☐ 128-bit

Key Format: ☒ Alphanumeric ☐ Hexadecimal

Encryption Key: [00000]

1 For 64-bit (sometimes called 40-bit) WEP encryption, enter the key which contains 5 alphanumeric character or 10 hexadecimal digits (depending on the key format you select)

2 For 128-bit WEP encryption, enter the key which contains 13 alphanumeric characters or 26 hexadecimal digits (depending on the key format you select)

(An alphanumeric character is a through z, A through Z, and 0 through 9. A hexadecimal digit is 0 through 9 and A through F)

If your wireless network uses WEP encryption to secure all data communications, you must enable WEP encryption setting and enter a key for the print server.

BACK NEXT EXIT

- Check the **Enable WEP Encryption** box to enable your WEP settings. If you choose to enable WEP encryption, you must make sure that the settings you enter here match the WEP settings on your wireless network. Make sure that the type of encryption, key format, and encryption key are the same as the settings on your wireless network and click **Next**.
9. You are now on the Configure Settings screen. If you have a DHCP server on the network, you can select “Obtain an IP address automatically.” If you want to use specific information, click “Specify an IP address” and input the IP Address, Subnet Mask, and Gateway IP Addresses (if necessary). Click **Next**.

Wireless Setup Wizard

TCP/IP Settings

Specify TCP/IP settings for the print server. The print server can be set up either to obtain IP address from a DHCP server on the network or to use a static IP address.

☐ Obtain an IP address automatically (use DHCP)

☒ Specify an IP address

IP address: [192 . 168 . 2 . 150]

Subnet Mask: [255 . 255 . 255 . 0]

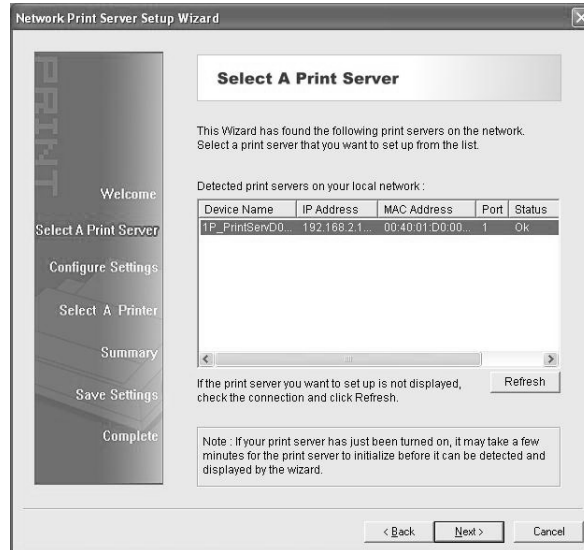
Gateway's IP: [192 . 168 . 6 . 1]

It's highly recommended that you set up the print server to use a static IP address. Make sure the IP address is correctly entered for the print server to work properly.

BACK NEXT EXIT

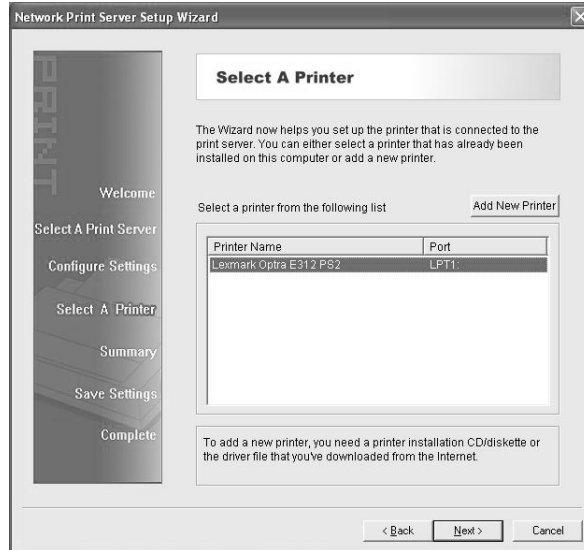
Note: In order to use some features of the print server (like the embedded web server), you will need to know the IP address of the print server. It is recommended that you choose to specify an IP address to your print server. If you choose to specify an IP address, make sure it meets the IP addressing requirements of the network segment.

8. When your TCP/IP settings have been saved, click **Next** to complete this phase of the installation.
9. If the Autorun program has shut down, restart it again. Choose the **Setup Wizard** again, and this time choose the **Network Print Server Setup Wizard**. At the Welcome screen, click **Next**.
10. Select the print server you want to configure and click **Next**.

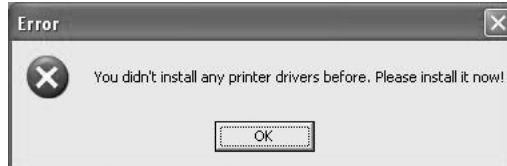


11. You have already configured the print server's IP settings in previous steps. If you are satisfied with those settings choose "No..." and click **Next**.

12. Choose the printer you want to install and click **Next**.



13. If you have not already installed the drivers for your printer, you may see the following screen:



Click **OK**, then follow the instructions provided by your printer manufacturer to install the drivers for your printer.

14. Return to the print server software. You should now be on the Select a Printer screen. If your printer is not listed, click on **Add New Printer** and follow the instructions that appear on your screen.
15. When you are finished, select the printer from the list and click **Next**.
16. You are now on the Summary screen. This screen displays a summary of your printer's configuration. Click **Next**, then **Finish** to complete the installation.

You have now completed the installation of the printer server. You can begin to use your printer on your network.

Diagnostic Mode

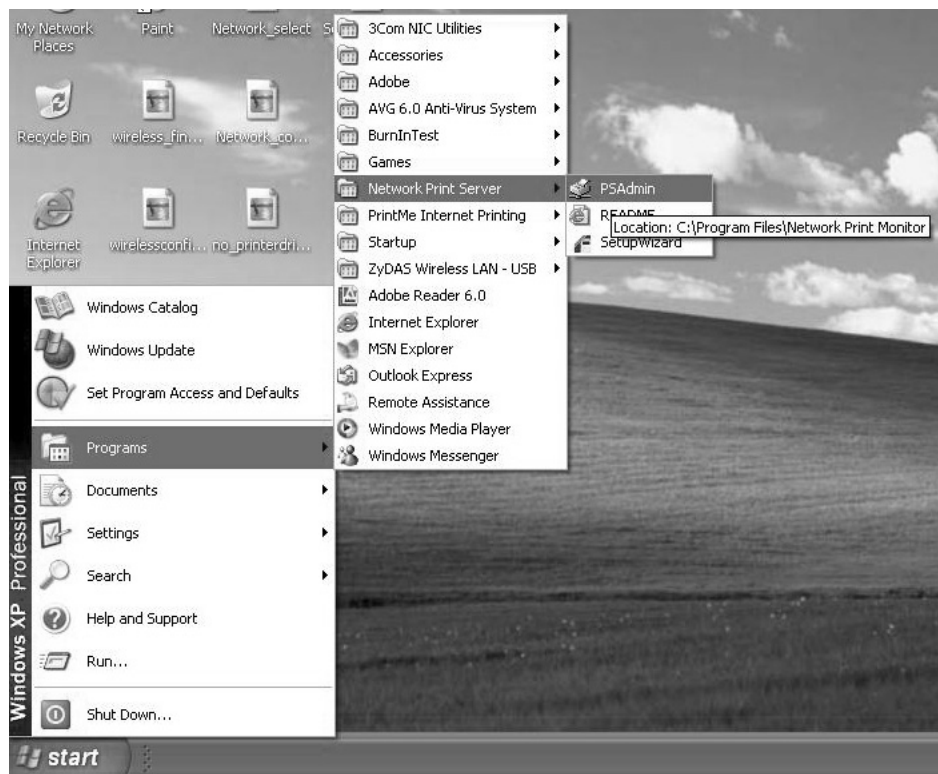
If you don't have a Wireless Access Point on your network or the print server cannot be discovered in Infrastructure mode, try using diagnostic mode.

Note: If you have already installed the print server software, you can use the PSAdmin software to configure your wireless settings instead of the Installation software. See "Using the PSAdmin Software" on page 12 for details on changing your wireless settings.

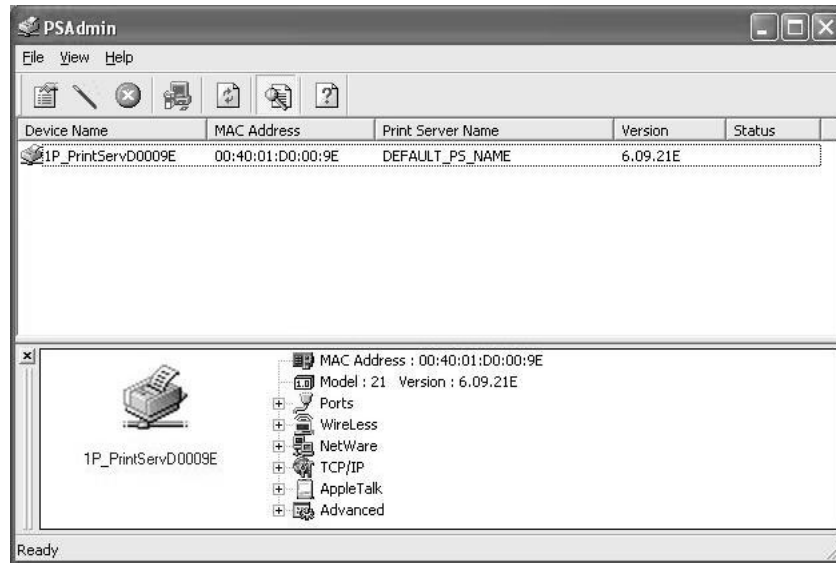
1. Set the dip switch on your print server to Diagnostic.
2. Make sure that the TCP/IP protocol is installed on your computer and you have assigned an IP address to your wireless adapter.
3. Using the instructions provided by your wireless adapter manufacturer, run the configuration utility for your wireless adapter and change it to **Ad-hoc** or Peer to Peer mode. Set the wireless adapter's SSID to **WLAN-PS** and the Channel to **6**. Make sure WEP is disabled. Check with your wireless adapter manufacturer if you encounter any problems with this step.
4. After a wireless connection has been established, insert the print server driver disk into your disk drive.
5. Run the Wireless Setup Wizard and refer to the Software Installation steps 2 to 8 (see previous pages) to configure your wireless print server.
6. Switch the dip switch on the printer back to Normal mode and adjust your wireless adapter configuration.
7. Follow Software Installation steps 9 to 16 (see previous pages) to complete the printer installation.

Using the PSAdmin Software

1. Insert the driver disk into your disk drive.
2. The Autorun program should automatically start. If the setup program does not start automatically, run **Autorun.exe** in the root folder from the driver disk.
3. Choose **Manual Installation**. Follow any onscreen prompts to complete the installation.
4. When installation is complete, there will be a Network Print Server Program folder in your program files. Click on the PSAdmin file in this folder.



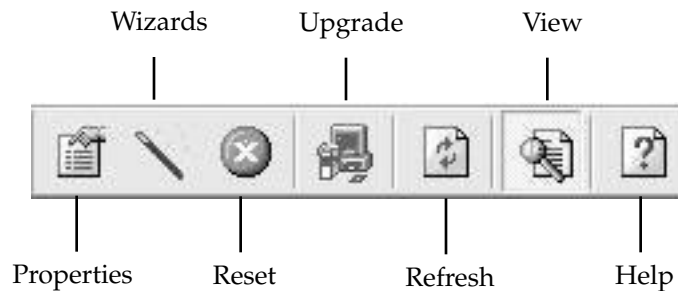
Using PSAdmin



The PSAdmin software opens on the View page. All print servers that feature a Novell NetWare function on the LAN that will be displayed alongside the following information:

- **Device Name:** The name of the printer used for identification purposes.
- **MAC Address:** The Ethernet or Node address of the print server.
- **Printer Server Name:** The name of the print server to which the device is attached.
- **Version:** The firmware version of the print server.
- **Status:** The current status of the printer.

You can use the toolbar at the top of the PSAdmin window to navigate the PSAdmin software.



PSAdmin: The Wizard

The Wizard is a configuration program that can assist you in setting up the necessary parameters for your printer to function.

TCP/IP Wizard

1. Click on the **Wizard** button and select **TCP/IP Wizard**.
2. If you have a DHCP server on the network, you can select "Obtain an IP address automatically." If you want to use specific information, click "Specify an IP address" and input the following:

IP Address: An IP address for the print server to use. It must meet the IP addressing requirements for the network segment.

Subnet Mask: The subnet mask that your LAN or network segment is configured to use (optional).

Gateway IP Addresses: Enter the IP address of the gateway (optional).

Note: In order to use some features of the print server (like the embedded web server), you will need to know the IP address of the print server. It is recommended that you choose to specify an IP address to your print server. If you choose to specify an IP address, make sure it meets the IP addressing requirements of the network segment.

3. When you are finished, click **OK**. The program will save the settings.

NetWare Wizard

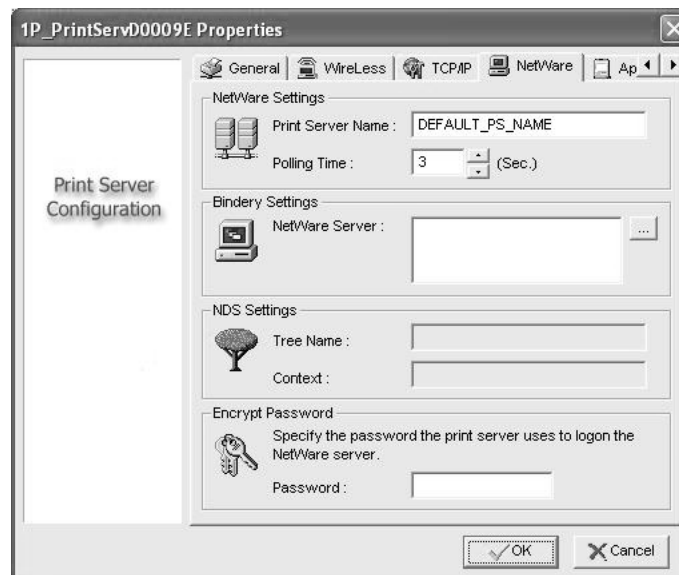
1. Log into your NetWare file server as a Supervisor (Admin.) or equivalent.
2. Click the **Wizard** button and select **NetWare Wizard**.
3. Type in a printer server name.
3. Select the NetWare file server that the print server will be attached to.
4. Type in a print queue name. Each print queue corresponds to the port on the print server.
5. When you are finished, click **OK**.
6. From your NetWare client computer, create a printer that is connected (or redirected) to the NetWare print queue.

PSAdmin: Properties

The Properties tab is a configuration program designed for more experienced users of NetWare.

NetWare Options

1. Run **PCONSOLE** in NetWare 3.x or NetWare 4.x and create the necessary parameters. Refer to your Novell NetWare print server/Services manual for details, if necessary.
2. Log into your NetWare file server as a Supervisor (Admin.) or equivalent. From your Windows 95/98/Me, run **PSAdmin**.
3. Select the print server that you wish to configure (if necessary).
4. Click **Properties** in the tool bar and click the NetWare tab.

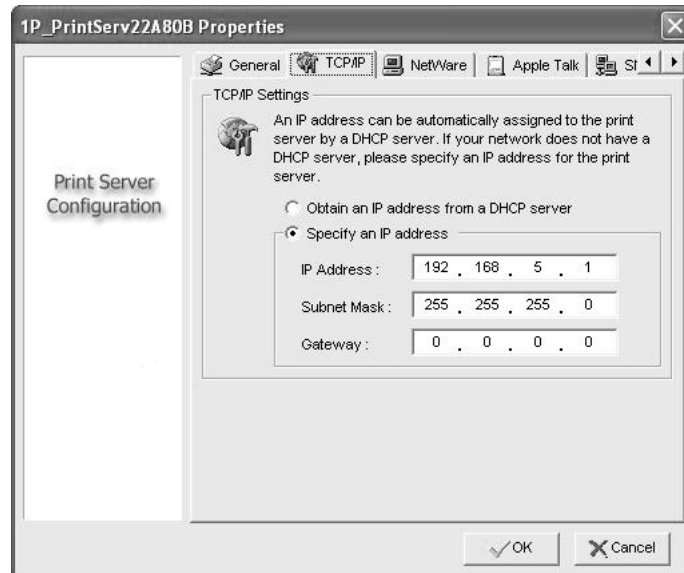


5. In NetWare Settings, type in the print server you created with PCONSOLE.
6. (Optional) In Bindery Settings, select the NetWare Bindery file server(s) name.
7. (Optional) In NDS Settings, select the NetWare NDS file server(s) name (NetWare 4.x or later).
8. When you are satisfied with your settings, click **OK**.
9. From your NetWare client computer, create a printer that is connected (or redirected) to the NetWare print queue.

TCP/IP Options

The TCP/IP settings allow you to modify the print server's TCP/IP settings. It is recommended that you specify a static IP address for the print server.

Run **PSAdmin** and select the print server that you wish to configure (if necessary). Click **Properties** in the tool bar and click the **TCP/IP** tab.



The values that appear in the fields are the current settings for the print server. You can choose from one of the following:

Obtain an IP address from a DHCP server: This option enables the DHCP feature of the print server. When this option is enabled, the print server will obtain an IP address automatically from the DHCP server on your LAN.

Specify an IP address: You can assign a fixed IP address for the print server.

IP Address: An IP address for the print server to use. It must meet the IP addressing requirements for the network segment.

Subnet Mask: (Optional) The subnet mask that your LAN or network segment is configured to use.

Gateway IP Addresses: (Optional) Enter the IP address of the gateway.

Note: In order to use some features of the print server (like the embedded web server), you will need to know the IP address of the print server. It is recommended that you choose to specify an IP address to your print server. If you choose to specify an IP address, make sure it meets the IP addressing requirements of the network segment.

PSAdmin: Upgrade

Upgrade allows the user to upgrade the print server device. Firmware upgrades for this device may be available from StarTech.com. Check with our website for details.

1. From the PSAdmin software, click on the **Upgrade icon**.
2. Select "General Upgrade" and click **Next**. Make sure that the upgrade file is located in the same directory as PSAdmin.

PSAdmin: Reset

Reset allows the user to reset the print server in order to establish a new connection or to allow new settings to take effect. Click the **Reset** icon to reset the print server.

PSAdmin: Refresh

Refresh searches the network for all attached print servers. Click the **Refresh** icon to refresh the print server.

Multiple Print Queues Configuration

You can configure the print server to service multiple print queues.

1. Log into your NetWare file server as a Supervisor (Admin.) or equivalent.
2. Run **PSAdmin**.
3. Select the print server that you want to configure.
4. Click the **Wizard** icon in the tool bar. Select the NetWare Wizard.
5. Type in a Print server and a Print Queue Name.
6. Run NetWare's **PCONSOLE** and create additional print queues.
7. Select the Print server name you specified in Step 5.
8. Select the "Print server Configuration" option and select the "Queue Serviced by Printer" option (For NetWare 4.x's PCONSOLE, please select "Printers" option and select "Printer 0" instead).
9. Select the "Printer 0" and press the **Insert** key to add the print queues you created in Step 6 into the list (For NetWare 4.x's PCONSOLE, please select "Print queues assigned" option instead).
10. Reset the print server by clicking the **Reset** icon in PSAdmin.

Please refer to NetWare's Print server/Services manuals for detailed PCONSOLE commands, if necessary.

Uninstalling PSAdmin

PSAdmin comes with an Uninstall Wizard that can remove the software from your computer.

1. Go to your Control Panel and double-click **Add/Remove Programs**.
2. Select the **Change or Remove Programs** tab.
3. Select "Network Print Monitor for Windows 95/98/NT/2000/XP" and click Change/Remove.
4. The uninstall program will be launched. Follow the onscreen prompts to remove the software.

Internet Printer Connection

IPP Overview

This print server supports the Internet Printing Protocol (IPP). Using the appropriate software on your system, you can create an IPP print path from your system over the Internet.

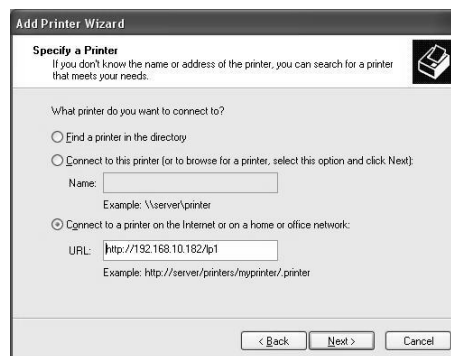
Note: For incoming path requests, your network administrator will have to configure your firewall to accept incoming IPP requests.

Windows XP/2000/2003

For Windows XP, 2000, or Server 2003, you can use a supported web browser (for example, Netscape or Internet Explorer) to view the embedded web server on the print server. Contact your administrator to get the IP address or URL of the printer and browse to the print server's web page.

For example, to install Windows 2000 by IPP service you must perform the following steps:

1. Click **Start**.
2. Click **Settings**, and then select "Printers."
3. Click **Add Printer**. Click **Next**.
4. Select "Network Printer" and click **Next**.
5. Select "Connect to a printer on the Internet or on your intranet" and enter the print server's IP address, followed by **/lp1**.



6. The program will automatically search for an HP printer. If it does not find one, it will display a message asking if you want to install the driver on your local computer. Click **OK**.
7. Select the appropriate printer manufacturer and printer type and click **Next**.
8. Choose whether you want Windows to use this printer as the default and click **Next**.
9. Click **Finish to complete the process**.

HP Web JetAdmin

HP Web JetAdmin allows you to use a Web browser to revise, view, manage and diagnose devices connected to the print server or any standard printer MIB devices. For more information about the HP Web JetAdmin software, please contact HP.

System Requirements

HP Web JetAdmin software runs on Microsoft Windows NT, HP-UX, Solaris, Red Hat Linux and SuSE Linux system, and others. It is recommend that you use Internet Explorer or Netscape Navigator version 4 or higher. For more information, go to <http://www.hp.com/go/webjetadmin>.

Note: When installed on a supported host server, HP Web JetAdmin can be accessed from any client through a supported Web browser by browsing to the HP Web JetAdmin host.

Before installing the HP Web JetAdmin software, you must have domain administrator or root privileges.

Download the installation files from HP at <http://www.hp.com/go/webjetadmin>.

Follow the instructions on the screen to install the HP Web JetAdmin software.

Note: Installation instructions are also contained in the HP Web JetAdmin install file.

Confirming Installation and Supply Access

Confirm that the HP Web JetAdmin software is correctly installed by navigating to it with your browser. For example, <http://server.domain:port/> where “server domain” is the host name of your web server and “port” is the port number assigned during installation.

Supply users access to HP Web JetAdmin software by adding a link to your web server’s home page that is addressed to HP Web JetAdmin’s URL. For example:
<http://server.domain:port/>

Configuring and Modifying a Device

Using your browser, navigate to HP Web JetAdmin’s URL. For example:
<http://server.domain:port/>

Follow the instructions on the appropriate home page to configure or modify your printer.

Note: You can also substitute the server domain name with the TCP/IP address.

Removing HP Web JetAdmin Utility

To remove HP Web JetAdmin software from your web server, use the uninstall program provided with the software package.

The Embedded Web Server

The print server contains an embedded web server that can be accessed through a supported web browser on a LAN. Internet Explorer 4.0 or Netscape 4.0 or higher are recommended.

The embedded web server gives you access to the configuration and management pages for the print server and the connected peripheral device.

Using the Embedded Web Server

Note: Before you can use the embedded web server, the print server must be configured with an IP address. You can set an IP address for the print server using the PSAdmin utility. See the “Using the PSAdmin Software” on page 12 for more information.

From your web browser, enter the IP address of the print server as the URL, for example, 192.168.1.2. The print server’s home page will appear in the web browser.

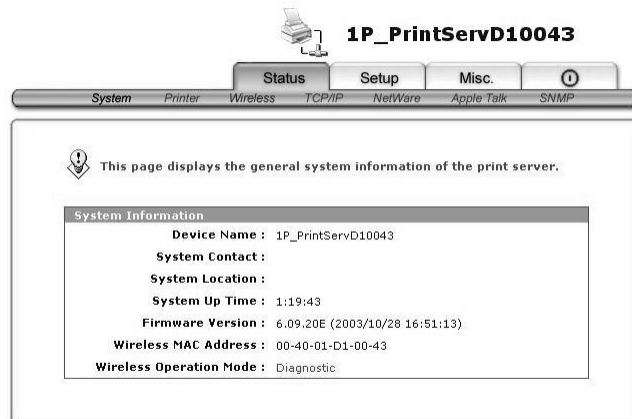


Note: Depending on the firmware version you are running, the screens displayed in the following section may not be identical to the screens you displayed on your system.

The Status Tab

The Status tab lets you view information about your print server and your network.

Status: System



Device Name: Displays the print server device's name.

System Contact: Displays the print server contact's name.

System Location: Displays the location of the print server. This confirms where the print server is located in your office's LAN.

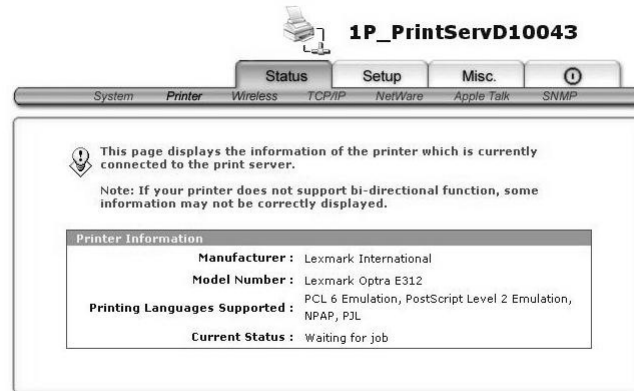
System Uptime: Displays the uptime of the print server. This is the amount of time that has passed since you turned on the print server.

Firmware Version: Displays the firmware version of the print server.

Wireless MAC Address: Displays the MAC Address or Node ID of the print server.

Wireless Operation Mode: Displays whether the print server is in Normal or Diagnostic mode.

Status: Printer



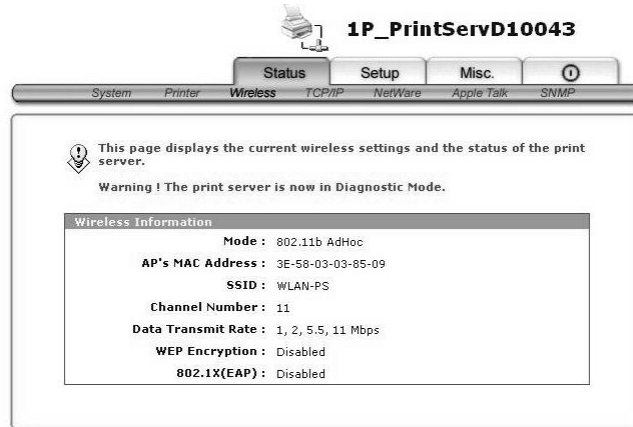
Manufacturer: Displays the name of the printer manufacturer.

Model Number: Displays the model of the printer.

Printing Language Supported: Displays the printing languages supported by the printer.

Current Status: Displays the current status of the printer.

Status: Wireless



Mode: Displays the wireless operation mode of your print server.

AP's MAC Address: Displays the MAC Address of your wireless access point.

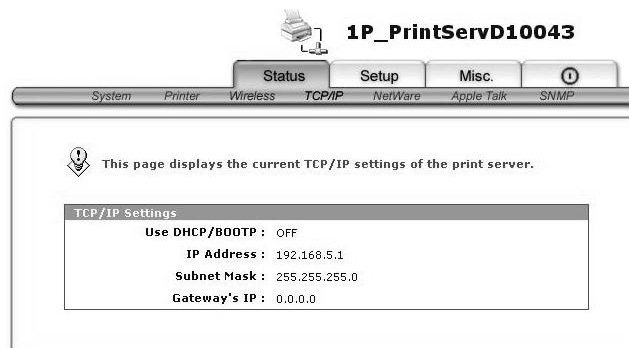
SSID: Displays the ESSID of your wireless network.

Channel Number: Displays the current channel number.

Data Transmit Rate: Displays the data transmission rate.

WEP Encryption: Displays the WEP encryption status.

Status: TCP/IP



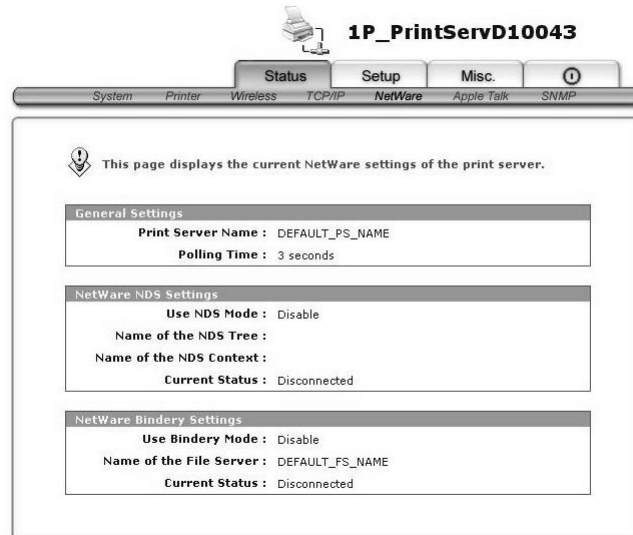
Use DHCP/BOOTP: Displays the DHCP/ BOOTP status. When On, the print server is obtaining IP-related settings automatically from your DHCP server.

IP Address: Displays the print server's IP address.

Subnet Mask: Displays the printer server's subnet mask.


Gateway's IP: Displays the print server's gateway IP address.

Status: NetWare



1P_PrintServD10043

System Printer Wireless TCP/IP **NetWare** Apple Talk SNMP

 This page displays the current NetWare settings of the print server.

General Settings	
Print Server Name :	DEFAULT_PS_NAME
Polling Time :	3 seconds

NetWare NDS Settings	
Use NDS Mode :	Disable
Name of the NDS Tree :	
Name of the NDS Context :	
Current Status :	Disconnected

NetWare Bindery Settings	
Use Bindery Mode :	Disable
Name of the File Server :	DEFAULT_FS_NAME
Current Status :	Disconnected

Print Server Name: Displays the print server's name as configured by the PSAdmin utility.

Polling Time: Displays the polling time from the print server.

Use NDS Mode: Displays whether NDS is enabled or disabled.

Name of the NDS Tree: Displays the name of the NDS tree.

Name of the NDS Content: Displays the name of the NDS content.

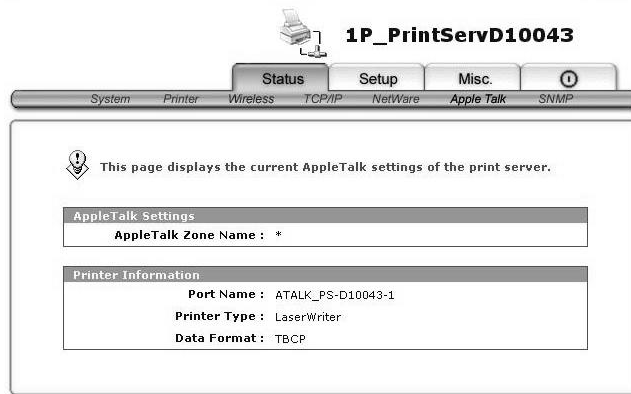
Current Status: Displays whether NetWare NDS is connected or disconnected.

Use Bindery Mode: Displays whether bindery mode is enabled or disabled.

Name of the File Server: Displays the name of the Bindery file server.

Current Status: Displays whether NetWare bindery is connected or disconnected.

Status: AppleTalk



1P_PrintServD10043

System Printer Wireless TCP/IP NetWare **AppleTalk** SNMP

This page displays the current AppleTalk settings of the print server.

AppleTalk Settings

AppleTalk Zone Name : *

Printer Information

Port Name : ATALK_PS-D10043-1
 Printer Type : LaserWriter
 Data Format : TBCP

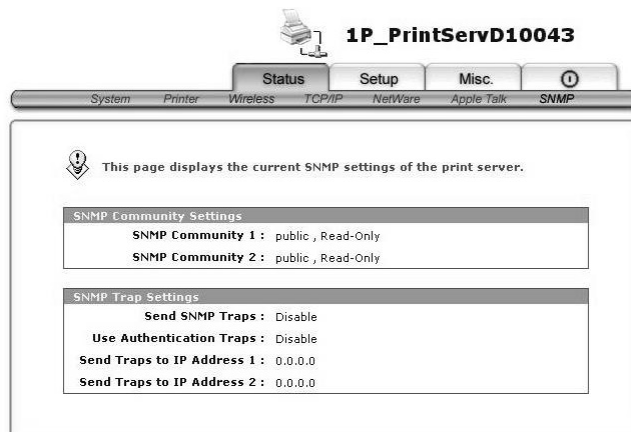
Zone Name: Displays the AppleTalk zone name. If no zone exists, the print server displays the zone name as an asterisk (*).

Port Name: Displays the AppleTalk port name in the form: ATALK_PS-xxxxxx-1, where xxxxxx represents the last six digits of the print server's MAC Address (or Node ID).

Printer Type: Displays the printer type. If you are using a PostScript printer you can select the LaserWriter 8 icon from your Mac computer.

Data Format: Displays the data format from the print server.

Status: SNMP



1P_PrintServD10043

System Printer Wireless TCP/IP NetWare AppleTalk **SNMP**

This page displays the current SNMP settings of the print server.

SNMP Community Settings

SNMP Community 1 : public , Read-Only
 SNMP Community 2 : public , Read-Only

SNMP Trap Settings

Send SNMP Traps : Disable
 Use Authentication Traps : Disable
 Send Traps to IP Address 1 : 0.0.0.0
 Send Traps to IP Address 2 : 0.0.0.0

SNMP Communities: Displays the SNMP communities from the print server. There are two communities that control messages.

SNMP Trap Settings: Display SNMP trap information.

Setup

The Setup tab allows you to configure your print server settings.

When you first access the Setup tab, you may be prompted for a User Name and Password. Enter **admin** as the user name and leave the password field blank. Click **OK**.

Setup: System



The screenshot shows the web interface for the 1P_PrintServD10043 print server. At the top, there is a title bar with a printer icon and the text "1P_PrintServD10043". Below this is a navigation bar with tabs: "System", "Printer", "Wireless", "TCP/IP", "NetWare", "Apple Talk", and "SNMP". The "System" tab is currently selected. The main content area has a warning icon and text: "This setup page allows you to configure general system settings of the print server." Below this is a section titled "System Settings" with three input fields: "Device Name" (containing "1P_PrintServD100"), "System Contact", and "System Location". Below these is a section titled "Administrator's Password" with two input fields: "Password" (with a note "(3 - 8 characters)") and "Re-type Password". At the bottom of the form is a "Save & Restart" button.

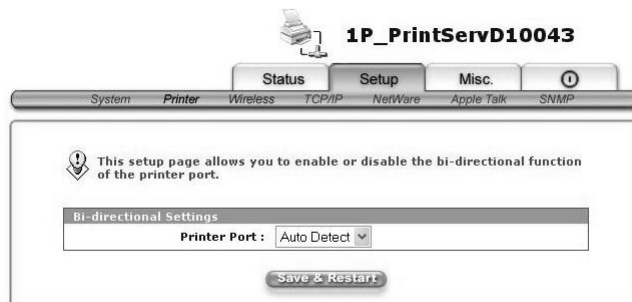
Device Name: This option allows you to change the device name of the print server.

System Contact: This option allows you to change the contact name for the print server.

System Location: This option allows you to change the location information about the print server.

Password/Re-type Password: This option allows you to change the print server's password. The next time you access the web configuration Setup menu, you will be prompted to enter the user name (**admin**) and this password.

Setup: Printer



The screenshot shows the web interface for the 1P_PrintServD10043 print server, specifically the "Printer" setup page. The title bar and navigation bar are the same as in the previous screenshot. The "Printer" tab is now selected. The main content area has a warning icon and text: "This setup page allows you to enable or disable the bi-directional function of the printer port." Below this is a section titled "Bi-directional Settings" with a single dropdown menu labeled "Printer Port" set to "Auto Detect". At the bottom of the form is a "Save & Restart" button.

Printer Port: (Parallel only) Choose either Auto Detect or Disable for your printer's bi-directional setting.

Setup: Wireless

1P_PrintServD10043

Status Setup Misc. ⓘ

System Printer **Wireless** TCP/IP NetWare Apple Talk SNMP

ⓘ This setup page allows you to configure wireless settings of the print server.

Warning ! The print server is now in Diagnostic Mode. You are still able to set up the print server. When done, please make sure that you turn the print server's DIP switch back to Normal Mode position and re-power on the print server in order for new settings to take effect.

Note : All new settings will not take effect if the print server remains in Diagnostic Mode.

Basic Settings

Mode : Ad-Hoc

Select SSID or Manually Enter SSID Below : < ANY >

Channel : 11 (USA: 1 - 11)

Data Transmit Rates : Auto

WEP Settings

Use WEP : Disabled

802.1X(EAP) Settings

Authentication : None

Save & Restart

Mode: Choose which mode the print server will operate in: Infrastructure, Ad Hoc, or 802.11b Ad Hoc.

Select SSID or Manually Enter SSID Below: Choose the SSID for your print server by selecting an SSID from the list or manually entering an SSID. Use the Site Survey button to search for available SSIDs. The SSID entered here must match the SSID of your wireless network.

Channel: Enter a channel number. The channel number entered here must match the channel number of your wireless network.

Data Transmit Rates: Choose a transmit rate for your print server. The transmission rate must agree with the transmission rate on your wireless network.

Use WEP: Choose to enable or disable WEP encryption. The WEP settings entered here must match the WEP settings on your wireless network.

Authentication: Choose the 802.1X (EAP) settings for your print server. The 802.1X setting entered here must match the 802.1X settings on your wireless network.

Setup: TCP/IP

1P_PrintServD10043

System Printer Wireless **TCP/IP** NetWare Apple Talk SNMP

! This setup page allows you to configure TCP/IP settings of the print server.

TCP/IP Settings

☐ Obtain TCP/IP settings automatically (use DHCP/BOOTP)
☒ Use the following TCP/IP settings

IP Address : 192.168.5.1
 Subnet Mask : 255.255.255.0
 Gateway's IP : 0.0.0.0

Save & Restart

Obtain TCP/IP settings automatically (use DHCP/BOOTP): This option allows you to select how IP information is assigned to your print server. If there is a DHCP/BOOTP server on your network, you can choose “Obtain TCP/IP settings Automatically” and the printer server will automatically be assigned IP information from the DHCP server.

Use the following TCP/IP settings: This option allows you to enter specific IP information. If you choose “Use the following...”, you will have to enter the proper information in following fields:

IP Address: Enter an IP address for the print server. The IP address must meet the IP addressing requirements of the network segment.

Subnet Mask: Enter a subnet mask for the print server. The address must meet the addressing requirements of the network segment.

Gateway: Enter a gateway IP address for the print server.

Setup: NetWare

1P_PrintServD10043

Status Setup Misc. ⓘ

System Printer Wireless TCP/IP **NetWare** Apple Talk SNMP

ⓘ This setup page allows you to configure the NetWare function of the print server.

General Settings

Printer Server Name :

Polling Time : seconds (min: 3, max: 29 seconds)

Logon Password :

NetWare NDS Settings

Use NDS Mode :

Name of the NDS Tree :

Name of the NDS Context :

NetWare Bindery Settings

Use Bindery Mode :

Name of the File Server :

Print Server Name: Enter a name for the print server. This name is usually configured by PSAdmin utility or PCONSOLE program.

Polling Time: Enter a time interval in which the print server unit polls the file server for servicing of print queues.

Logon Password: This option allows you to input an encrypted password for the print server.

NDS Mode: Enable NDS Mode if you want to set up an NDS environment. If you've enabled NDS mode, you'll also have to select the Name of the NDS Tree and enter a context name in the Context box.

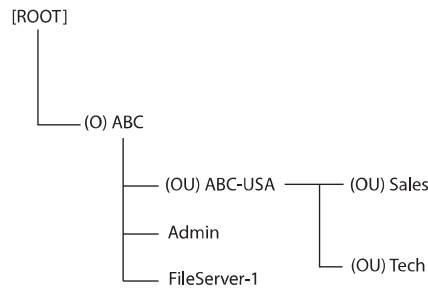
Bindery Mode: Enable Bindery Mode if you want to setup a Bindery environment. If you have enabled Bindery mode, you will need to fill the Name of File Server field.

Installing the Print Server on NetWare 4.x/5.x

Due to its architecture and functionality, the print server works under NetWare 4.x/5.x NDS Bindery Emulation. When you install the NetWare file server for the first time, by default the installation program will automatically setup the **Bindery Emulation** function for you by adding "SET BINDERY CONTEXT =" in the AUTOEXEC.NCF file. By default, the bindery context will only be set on your organization (O) object.

If you have ever modified this line, or if you have ever added any organizational units (OU) to your NDS tree after the NetWare system was installed, please read the following section before installing the print server.

For the purpose of illustration, we assume the NDS tree structure is as follows:



Installation Procedure

1. At your file server console, type "load install".
2. Select "NCF files options".
3. Select "Edit AUTOEXEC.NCF file".
4. Add or modify the "SET BINDERY CONTEXT=" line to include the NDS organization unit (OU) objects where users are located. For example:
SET BINDERY CONTEXT = O=ABC; OU=SALES.OU=ABC-USA.O=ABC;
OU=TECH.OU=ABC-USA.O=ABC;
5. When done, save the AUTOEXEC.NCF file. Restart your NetWare file server in order for the new settings to take effect immediately.
6. Refer to the "Auto Setup" section in this chapter to finish installing the print server.
7. Log on to your NetWare file server as a Supervisor (Admin) or equivalent via a Bindery connection.
8. Run NetWare's PCONSOLE and add user to the "Queue Users" list.
9. From your NetWare client computer, such as Windows 95/98/Me, create a printer that is connected (redirected) to the NetWare print queue serviced by the printer server.

Note: Please refer to NetWare's Print Server/Services manuals for detailed PCONSOLE commands.

Setup: AppleTalk

The screenshot shows a web browser window with the title "1P_PrintServD10043". The interface has a top navigation bar with tabs: System, Printer, Wireless, TCP/IP, NetWare, Apple Talk (selected), and SNMP. Below the navigation bar, there's a status bar with "Status", "Setup" (selected), "Misc.", and an information icon. The main content area contains a message: "This setup page allows you to configure AppleTalk settings of the print server." Below this, there are two sections: "AppleTalk Settings" and "Printer Configuration".

AppleTalk Settings

AppleTalk Zone Name :

Port Name :

Printer Configuration

Printer Type :

Data Format :

At the bottom of the form is a "Save & Restart" button.

The print server can print jobs submitted from Macintosh workstations connected to an Ethernet using AppleTalk protocol. The basic configuration is for the print server in an AppleTalk environment is performed simply by opening the Chooser (OS 9 and earlier) window and selecting a printer that is connected to the print server.

AppleTalk Zone Name: In this option, type an AppleTalk Zone name that you want the print server to belong to or leave it in default (This enables the print server to automatically search and link itself to the default zone that is set on the AppleTalk router, if found). We also assume that at least one AppleTalk Zone exists on the network. If no zone exists, the print server itself displays the zone name as an asterisk (*) in the current AppleTalk Status of the print server in the web browser.

Port Name: In this option, type a name for identification purposes or just leave it as the default (recommended).

The default print server's Chooser name is as follows: <ATALK_PS>-xxxxxx-1, where xxxxxx represents the last six digits of the device's MAC Address. For example: ATALK_PS-40EEED-1. You can change the <ATALK_PS> for identification purposes, but the print server will always append the last six digits of the MAC Address to the name you specify.

PrinterType: By default, LaserWriter is listed as the printer type (recommended).

Data Format: Choose a printer data format. The list includes ASCII, TBCP, and BCP.

Setting Up a Macintosh Computer (OS 9 and below)

1. From your Macintosh computer, pull down the Apple Menu and select Chooser.
2. The Chooser window will display an Apple Zone list. Select the Zone name you specified when configuring the print server.

Note: If you select a Zone that the Print Server doesn't belong to, no N7119+ will be displayed in Step 4.

3. If you are using a PostScript printer, select the Laser Writer 8 icon.
4. The Chooser window displays the Print Server featuring the AppleTalk protocol, along with its default Chooser Name in the right-hand "Select a PostScript Printer" dialog box.

Note: You may change the default Chooser name and Zone name of a Print Server by using your web browser before proceeding with your installation. If you are using OS 8.x or 9.x, make sure that your printer supports PostScript.

5. Click **Setup...** and choose the PPD file matching your printer and click OK. If our printer does not appear in the PPD file list, please contact your printer manufacturer. You may also use the Generic PPD if you do not need any printer-specific features.
6. Close the Chooser window.

Setup: SNMP

IP networks use a standard management protocol called Simple Network Management Protocol (SNMP). SNMP is widely used in the industry as a solution for remote network management and monitoring of networking devices. SNMP actually includes a protocol, a database structure specification, and a set of database objects. The database objects are contained in a standard database called Management Information Base (MIB) that is stored on the networking device called an SNMP agent. The print server's SNMP implementation runs in a TCP/IP environment.

A host on the network running Network Management System (NMS) software can access the print server device by reading and writing the MIB objects stored in the device. The Network Management Systems are available from many third-party vendors, such as Hewlett-Packard's OpenView.

When accessing (traversing) MIB objects in the print server using NMS software called SNMP manager, you need to provide a community name in each SNMP request for authentication purposes. The print server supports up to two community names. The default community name is **public** (case-sensitive), with Read Only access right in default.

When an unusual condition or activity occurs, the SNMP agent alerts the SNMP manager through SNMP traps. The following list summarizes SNMP trap messages that the print server will send out:

Link Up or Link Down: When the network interface on the print server fails, a Link Down trap message is generated; if the network interface comes back to life, a Link Up trap message is sent.

Cold Start or Warm Start: When the print server restarts, the Cold Start or Warm Start trap message is generated.

Authentication Failure: When the print server receives an SNMP request with a community name that does not match the community name the print server is configured with (stored in the print server's memory), an Authentication Failure trap message is generated.

In the print server's SNMP implementation, the following MIB objects are available for updating:

system.sysContact: Indicates the network administrator's name.

system.sysName: Indicates the print server's name for identification.

system.sysLocation: Indicates the location of the print server.

snmp.snmp EnableAuthenTraps: Enables or disables the function of sending SNMP Authentication Failure trap message to the network administrator, if the community name within a SNMP request is not correct.

1P_PrintServD10043

Status Setup Misc. ⓘ

System Printer Wireless TCP/IP NetWare Apple Talk **SNMP**

ⓘ This setup page allows you to configure SNMP settings of the print server.

SNMP Community Settings

Support HP WebJetAdmin :

SNMP Community Name 1 :

Privilege :

SNMP Community Name 2 :

Privilege :

SNMP Trap Settings

Send SNMP Traps :

Use Authentication Traps :

Send Traps to IP Address 1 :

Send Traps to IP Address 2 :

Support HP WebJetAdmin: Choose to disable/enable the support for HP WebJetAdmin.

SNMP Community: The print server supports up to two community names. The default community name is **public** (case-sensitive), with Read-Only access rights in default.

SNMP Traps: Enable the function of sending SNMP Authentication Failure trap messages to the network administrator, if the community name within a SNMP request is not correct.

Network Print Monitor

The print server supports TCP/IP, IPX/SPX and NetBEUI protocols under Windows. Please make sure that the following steps have been completed before proceeding with installation under Windows PC. For information on installing these protocols, see your Windows help center.

Windows 95/98/Me/NT/2000/XP Installation Procedure

Please perform the steps as follows to ensure a smooth installation:

1. Run **Setup** from the print server's NetWare, Win 95/98/Me/NT/2000/XP Setup diskette.
2. The Network Print Monitor for Windows 95/98/Me Setup will then appear. Click **Next**.
3. A message reading, "Setup is complete. You may add the Network Printer Port by using the PSAdmin" will appear. Click **OK**.
4. Click **Start**, point to **Settings**, and select **Printers**.
5. Double-click the **Add Printer** icon.
6. Select Local Printer and click **Next**.
7. Select the appropriate printer manufacturer and printer type and click **Next**.
8. Select LPT1 and click **Next**.
9. Type in the Printer Name and click **Next**.
10. A message reading, "After your printer is installed, Windows can print a test page so you can confirm that the printer is set up properly." Select No and click **Finish**.
11. Double-click the newly created Printer Name icon.
12. Select Printer and Properties.
13. Click Details tab and select Add Port.
14. In the Add Port dialog box, select Other.
15. Select the Network Print Port and click **OK**.
16. The Add Port box will then appear, along with the last 6 digits of the print server's MAC Address (located on the back of the print server unit). Select a print server port from the list, which is now connected to your printer.
 - By default, the computer will first search for the print server(s) on the network by using the IPX/SPX protocol.

- If the IPX/SPX protocol is installed, the print server will be displayed along with its Node ID, as shown in Node column. (The last 6 digits of the MAC Address, located on the back of the print server unit). Select one of the print server's ports from the list.
- If the IPX/SPX protocol is not installed, no print server will be shown in the display box. Then please select TCP/IP or NetBEUI alternatively.

The system continues to search for the print server on the network by using the protocol you specified in the step above. When finished, the print server will be displayed along with its Node ID (the last 6 digits of the MAC Address, located on the back of the print server unit). Select one of the print server's ports from the list.

Uninstalling Network Print Port on Windows 95/98/Me/NT/2000/XP

The Network Print Port software comes with un-installation wizard program to help users remove the software components from their Windows 95/98/Me/NT/2000/XP systems in minutes. Please follow the directions listed below to proceed with the un-installation procedure.

After the Network Print Port is removed, the print server is no longer accessible via the Network Print Port. You have to re-install the Network Print Port on your system in order to access the print server again.

1. Click **Start**, point to **Settings**, and select **Control Panel**.
2. Double click the **Add/Remove Programs** icon.
3. Click the Add/Remove tab.
4. Select Network Print Monitor and click the **Add/Remove** button.
5. The uninstall wizard program will be launched.
6. Follow the directions on the screen to complete the un-installation procedure.

Note: We recommend you restart your computer after the un-installation is finished.

TCP/IP LPR Port Printing Installation

Basic TCP/IP Installation Overview

When installing your print server in a TCP/IP environment, IP addresses are essential as a basic means of communication. It is necessary to first assign an IP address to your print server unit. After assigning an IP address, the print server can be configured accordingly.

Assigning an IP Address

You must assign the print server an IP address and other related TCP/IP settings before the print server can function. You can use the following two methods to specify an IP address to the print server.

- Use the Network Print Monitor utility.
- Manually specify an IP address for the print server (using DOS commands or UNIX text-mode commands. This applies to Windows NT/2000/XP and UNIX systems).

Note: The Network Print Monitor can only search for the print server(s) on the same network segment as the Windows NT/2000/XP/UNIX computer.

DHCP

The print server supports DHCP, allowing the print server to obtain an IP address and related TCP/IP settings automatically from a DHCP server. While the print server supports DHCP, we recommend you manually specify a fixed IP address to the print server. By default, the print server's DHCP function is disabled.

Windows NT LPR Port Printing Installation

1. Click **Start**, point to **Settings**, and select **Printer**.
2. Run Add Printer.
3. The Add Printer Wizard screen will appear, select My Computer and click **Next**.
4. Click **Add Port**.
5. From the Printer Ports box, select the LPR Port.
6. The Add LPR compatible printers box will appear. Type in the IP address assigned to the print server in the "Name or address of server providing lpd" box.
7. In the "Name of printer or print queue on that server" box, type in a printer name, for example, lp1. Click **OK**.
8. In the Printer Ports box, select **Close**.
9. Click **Next**.

10. Select the appropriate printer manufacturer and printer type list and click **Next**.
11. Select **Shared**. Type in a new Share Name or leave it in default and click **Next**.
12. A message reading, "After your printer is installed, Windows can print a test page so you can confirm that the printer is set up properly." Select "Yes (Recommended)" and click **Finish**.

Windows 2000/XP Standard TCP/IP Port Printing Installation

1. Click **Start**, point to **Settings**, and select **Printer**.
2. Run Add Printer and click **Next**.
3. The Add Printer Wizard screen will appear. Select **Local Printer** and click **Next**.
4. From the "Create a new port box", select the **Standard TCP/IP Port**, click **Next** and **Next** again.
5. The Add Standard TCP/IP Printer Port Wizard box will then appear. Type in the IP address assigned to the print server in the "Printer Name or IP Address" box, and click **Next**.
6. In the Add Standard TCP/IP Printer Port Wizard box, select **Custom**. Click the **Settings** button, and click **Next**.
7. In the Configure Standard TCP/IP Port Monitor box, select **LPR form Protocol**, and type in a queue name, for example, lp1 for Port 1.
8. Click **OK**, and **Next**.
9. Click **Finish**.
10. Select the appropriate printer manufacturer and printer type list and click **Next**.
11. Type in a new Printer name or leave it as the default, and click **Next** button.
12. A message reading, "To confirm that the printer is installed properly, you can print a test page." Select "Yes (Recommended)" and click **Finish**.

UNIX Installation

After the IP address is assigned, the Print Server is ready to be configured. For some popular UNIX systems (SCO OpenServer and UnixWare, Sun Solaris, IBM AIX, and Linux), we have include the installation procedures below. If you can't find the installation procedure corresponding to your UNIX system, please refer to your UNIX manual for details about setting up a "remote printing system."

SCO UNIX (OpenServer 5.0.x)

1. Login as root.
2. Type "arp -s <IP address> <Print server's node ID>"

The Print servers node ID (or MAC address) can be found from the white label on the backside of the Print Server.

For example: `arp -s 192.72.214.103 00-40-01-05-01-8c`

3. Type "ping <Print server's IP address>"

For example: `ping 192.72.214.103`

(You should get responses from the print server).

4. Type "tftp < Print server's IP address>"

For example: `tftp 192.72.214.103`

At the tftp prompt, type "get config.txt" to retrieve the Print Server's configuration file.

For example: `tftp > get config.txt`

5. Quit from tftp, and then use your editor to modify the "05 BoxIPAddress" field in the config.txt file from 0.0.0.0 to the IP address you specified in Step 2.
6. (Optional) Modify the "06 Gateway" field from 0.0.0.0 to your gateway's IP address.
7. (Optional) Modify the "07 SubnetMask" field from 0.0.0.0 to the subnet mask.
8. When done, save the new config.txt.
9. Type "tftp < Print server's IP address>"

At the tftp prompt, type "put config.txt" to save the new configuration file back to the Print Server.

For example: `tftp > put config.txt`

10. Type "mkdev rlp"

After this step, the Remote Printer Configuration appears. Answer the questions as follows:

- a. Do you want to install or remove printing (i/r/q) ? [q] : ----> i

b. Do you wish to change the printer description file /etc/printcap (y/n) [n] ? ----> y

c. Enter information for remote printers or local printers accepting remote printing requests:

Please enter the printer name (q to quit): --->printer-1

You can enter a printer name you like in this option.

d. Is xxxx a remote printer or a local printer (r/l) -----> r

e. Please enter the name of the remote host that xxxx is attached to: -----> (the Print server's IP address you specified in Step 2, for example, 192.72.214.103)

Note: You can add the host name associated with the IP address in the /etc/hosts file. If you have done this, please use the host name instead of the IP address.

f. Printer xxxx is connected to host 192.72.214.103

Is this correct? (y/n) -----> y

g. You will see some messages, then the following question will appear:

If you're not sure, answer "n"? (y/n) [n] -----> n

h. Would you like this to be the system default printer? (y/n) [n]----->Choose whether you want this printer to be your default printer.

i. Do you want to install or remove printing (i/r/q)? [q] : -----> q

j. Do you want to start remote daemon now (y/n) -----> y

11. Submit print jobs by using "lp" or "lpr" command.

For example: lp -d printer-1 /etc/printcap

SUN Solaris 2.x

1. Login root
2. Type "arp -s <IP address> < Print server's node ID>"

The node ID can be found from the white label on the backside of the Print Server.

For example: arp -s 192.72.214.103 00-40-01-05-01-8c

3. Type "ping < Print server's IP address>"

For example: ping 192.72.214.103

(You should get the responses from the Print Server).

4. Type "tftp < Print server's IP address>"

For example: tftp 192.72.214.103

At the tftp prompt, type "get config.txt" to get the Print Server's configuration file.

For example: tftp > get config.txt

5. Quit from tftp, and then use your editor to modify the "05 BoxIPAddress" field in the config.txt file from 0.0.0.0 to the IP address you specified in Step 2.
6. (Optional) Modify the "06 Gateway" field from 0.0.0.0 to your gateway's IP address.
7. (Optional) Modify the "07 SubnetMask" field from 0.0.0.0 to the subnet mask.
8. When done, save the new config.txt.
9. Type "tftp < Print server's IP address>"

At the tftp prompt, type "put config.txt" to save the new configuration file back to the Print Server.

For example: tftp > put config.txt

10. Type "lpsystem -tbsd <Print server's IP address>"

For example: lpsystem -tbsd 192.72.214.103

Note: You can add the host name associated with the IP address in the /etc/hosts file. If you have done this, please use the host name instead of the IP address.

11. Type "lpadmin -pprinter-1 -s <Print server's IP address>"

where printer-1 represents the Print Server's parallel port. You can enter a printer name you like.

For example: lpadmin -pprinter-1 -s192.72.214.103

12. Type "accept printer-1"

13. Type "enable printer-1"

14. Submit print jobs by "lpr" command. For example: lpr -Pprinter-1 /etc/hosts

IBM AIX 4.xx

1. Login as root.
2. (Optional) Edit the /etc/hosts file. Add a line of the Print Server's host name and its associated IP address.

Note: Before this step, please make sure you have manually assigned an IP address to the Print Server.

3. Under the prompt sign, type "smit" and press Enter.
4. Select Device.
5. Select Printer/Plotter.

6. Select Printer Spooling.
7. Select Add a Print Queue.
8. Select Remote.
9. Select Standard Process.
10. In the Queue Name option, type in a printer name. For example: printer-1
11. In the Host Name option, type in the IP address of the Print Server.

Note: You can add the host name associated with the IP address in the /etc/hosts file. If you have done this, please use the host name instead of the IP address.

12. In the Name of Queue on Remote Server option, type in a print queue name. For example: printer-1-q.

Redhat Linux 9

The Print Server can work under any Linux-based systems, including Slackware, RedHat, etc, without any problems.

Basically, the Linux's printing system is based on BSD system. Although many commercial Linux systems are available in the market and their commands will vary slightly depending on which version is used, the functionality of the Linux-based variants is the same.

Following are the outlined procedures (recommended for all users) on Red Hat Linux 7.2/7.3 or later with X-Window system installed.

- a. Make sure that the TCP/IP is well configured on your RedHat system, including network interface card's driver and IP-related settings like IP address, subnet mask, and gateway IP).
- b. Login as root.
- c. Assign Print Server an IP address. At shell mode:
 - c.1. `arp -s <the IP address you want to assign to the Print Server> < Print Server 's Node ID>`
 - c.2. Execute `tftp < Print Server 's IP> get config.txt` and quit `tftp`.
 - c.3. Edit the `config.txt` and modify the IP address, subnet mask, and gateway IP. When done, save the `config.txt`.
 - c.4. Execute `tftp <Print Server 's IP> put config.txt` and quit `tftp`.
- d. Start X-windows by typing `startx` at the shell mode.
- e. Open Printer Configuration.
- f. Click New button.

- g. Click Forward button.
- h. In the Name field, type a user-defined name, click Forward.
- i. In the Queue Type field, choose Networked UNIX.
- j. In the Server field, type the IP of print server
- k. In the Queue field, type a print server's port name, which connect to the printer. For example: lp1.
- l. Click Forward button.
- m. In the Printer field, choose Postscript Printer.
- n. Choose the model of printer and click Forward.

UnixWare 7

- 1. Login as root.
- 2. Run CDE (Common Desktop Environment).
- 3. Open the subpanel under the SCO icon in the Front Panel.
- 4. Select SCO Admin.
- 5. Select Print Setup Manager from System Administration window.
- 6. Click LPD icon in the tool bar of Print Setup window.
- 7. In Name field, type a name for the printer for identification purpose.
- 8. In Protocol field, select lpd(BSD).
- 9. Select your printer's make and model from the Make/Model list.
- 10. In Printer Connection Type, select On Remote Server.
- 11. It then appears a (new) Remote System option. Type the IP address of the print server.
- 12. In Remote Printer field, type a name for the print server's print port. For example, Port1.
- 13. When done, click **OK** button.

Now run Printer Manager, and you'll see an icon for the printer that is connected to the print server device.

Upgrading the Print Server

Upgrading the print server allows you to replace the firmware inside the print server with a newer version. Check with StarTech.com for firmware upgrades.

Note: 1. Before you upgrade the print server, ensure that the necessary binary file is located in your current working directory.

Note 2. Before upgrading print server, please ensure print server is not printing. Wait until the current print job is finished before proceeding.

Upgrading the print server from PSAdmin

1. Log into your NetWare file server as a Supervisor (Admin.) or equivalent.
2. Ensure the bin file is located in the PSAdmin directory.
3. Run **PSAdmin** from your Windows PC.
4. Click the **Upgrade** icon in tool bar.

Upgrading the print server from Windows NT/2000/XP (Through TCP/IP)

1. Ensure that the bin file is located in your current working directory.
2. At NT/2000/XP's DOS prompt, and type "tftp <print server's IP address> get upgrade".
3. Type "tftp -i <print server's IP address> put mpsXX.bin".
4. Wait for the "Transfer successful" message.

Upgrading the print server from UNIX (Through TCP/IP)

1. Login as root
2. Ensure that the bin file is located in your current working directory.
3. Type "tftp <print server's IP address>".
4. At tftp prompt, type "get upgrade".
5. Change to binary mode.
6. At tftp prompt, type "put mpsXX.bin".
7. Wait for the file transfer to complete.
8. Quit from tftp.

Upgrading the print server from Browser

1. Ensure that the bin file is located in your current working directory.
2. Enter the IP address of the print server as the URL.
3. Click Misc, and then choose **Upgrade From Browser**.
4. Click **Upgrade from Browser** and select the firmware file.
5. Click **Upgrade**.

Troubleshooting

LED Light Indicators

The print server is equipped with LEDs to assist in diagnosing problems that are the result of the network and/or the print server hardware itself.

Status (Red): When the print server unit is powered on, the Status LED will flash five times as part of the unit's Power On Self Test (POST). This indicates that the print server hardware is properly configured. This LED, however, may flicker when data is being transmitted or printed.

WLAN (Green): This LED indicates that data is being transmitted/received by the WLAN port.

Power Related Problems: The print server requires an external power adapter in order for it to function. If you have a power problem, check to see whether the power cord or its connectors are damaged. Also check to see that the power adapter included with the print server matches the voltage in your country or area. Using an incorrect adapter will damage your print server.

Printer Port Related Problems: Printing problems may be caused by a loose connection between the print server and the parallel or USB port of the printer. Make sure that the connectors are firmly seated. Make sure the connectors are not damaged.

Wireless Communication Problems: If you have problems getting your print server to communicate with other devices on your wireless network, try putting the print server in Diagnostic mode. See **Diagnostic Mode** on page 11 for details.

Windows 95/98/Me/NT/2000/XP Troubleshooting

Multi-Segment LAN Environment Installation (through the Network Print Port)

If your print server and Windows 95/98/Me/NT/2000/XP are located on two different segments, and your Windows NT server is used as the router/gateway you will need to implement the following procedures in order for your print server to function properly:

- Add the RIP for NWLink IPX/SPX compatible transport. See “RIP for NWLink IPX/SPX compatible transport Installation Procedure” below.
- Add the frame type 802.2 for both Ethernet adapters. See “Multi-Segment Frame Type 802.2 Installation” below.

RIP for NWLink IPX/SPX compatible transport Installation Procedure

1. From your Windows NT server that is used as a router, select **Start**, then **Settings**, then **Control Panel**.
2. Double-click the **Network** icon.
3. Select **Services**.
4. Select **Add**.
5. In the Select Network Service box, select the RIP for NWLink IPX/SPX compatible transport. Click **OK**.
6. Follows any on-screen prompts to complete the installation.

Multi-Segment Frame Type 802.2 Installation

1. From your Windows NT server that is used as a router, select **Start**, then **Settings**, then **Control Panel**.
2. Double-click the **Network** icon.
3. Select Protocols. Select the NWLink IPX/SPX Compatible Transport and select Properties.
4. Select your (first) network interface card and select Manual Frame Type Detection and click **Add**.
5. In the Frame Type field, select Ethernet 802.2.
6. In the Network Number field, type in a unique 8-digit hexadecimal network number. For example: 12345ABC.
7. Select **Add**.
8. Repeat the Steps 5-7 for the other Ethernet adapter.
9. Restart the computer.

Moving the print server to a New Segment

If the print server is moved from one network segment to another after the initial installation, through the Network Print Port, the print server must be reconfigured on the original Windows NT server or on each Windows 95/98 computer using this print server in order for the print server's driver on each computer to re-establish a new connection.

Print Server Reconfiguration Procedure on Windows 95/98/Me

1. Click **Start**, then **Settings**, then **Printers**.
2. Select the printer connected to the print server, and right-click the printer icon. Select **Properties**.
3. Click **Details** tab.
4. Click **Port Settings** as shown in the picture below. The print server will be displayed on the next print server's configuration screen. Find your original print server according to its Port Name or other distinguished name and click this print server.
5. Click **OK** and to return to the printer's Properties page.
6. Click **OK** again.

Print server Reconfiguration Procedure on Windows NT

1. Click **Start** on the bottom left hand corner of the screen, then **Settings** then **Printers**.
2. Select your printer connected to the print server, and right-click the printer icon. Select **Properties**.
3. Click **Ports** tab.
4. Click **Configure Port**. The print server will be shown on the next screen.
5. Find your original print server according to its Port Name or other distinguished name and click this print server.
6. Click **OK** and it returns to the printer's Properties page.
7. Click **OK**.

Moving Your Computer to A New Segment

If you are using the print server through the Network Print Port on your NT or Windows 95/98/Me computer and your computer is going to be moved onto another segment, you have to reconfigure the print server on your computer. This situation is like moving the print server to a new segment. Please refer to the "Moving the print server to a new segment" section for more detailed reconfiguration instructions.

Novell NetWare Troubleshooting

Many printing problems can be traced back to incorrect or incomplete print server installations. It is always wise to check the installation configurations first.

If necessary, delete the print server, print queue(s), or other setting(s). Next, recreate the necessary parameters or reconfigure the print server by running the **PSAdmin** program.

TCP/IP Troubleshooting

When you are configuring a new print server on your NT/UNIX server through LPR Port printing under TCP/IP protocol, you might encounter the following problem in your initial installation steps:

"I can do the "arp" command. However, when I ping or tftp the print server, it always shows "Request timed out." I have checked the print server's power and it passed the POST. The network cabling is also OK. As such, I can't do tftp command to get the print server's configuration file and save its IP address permanently. I can't, therefore, continue installing the print server."

Regarding this problem, there are three possible causes:

A. The print server's Node ID (MAC Address) you specified in the "arp" command is not correct.

If this is the case, please ensure the Node ID field in the corresponding entry of the print server's IP address in NT's ARP cache table is correct by typing the following command at NT's DOS prompt: "arp -a"

If the Node ID shown on the screen doesn't match the print server's Node ID, please follow the instructions below to reset the entry:

1. At NT's DOS prompt, type "arp -d <print server's IP address>" to delete the current entry.
2. Type "arp -s <print server's IP> <print server's Node ID>" to specify a new ARP entry.

B. The print server's IP address is the same as another computer's IP address on the network.

If this is the case, please consult your network administrator to obtain an unused IP address for your print server. Assign this new IP address to your print server using the procedure's outlined previously in the manual.

C. The print server is on one segment and your Windows NT server is on the other segment. (This troubleshooting guide will also apply to a multiple-segmented network while installing the print server)

For example, assuming the print server is on Segment A, NT server is on Segment B, and there is a gateway computer between Segment A and Segment B. The network might be a complete TCP/IP network, or a hybrid of TCP/IP and IPX/SPX network.

If this is the case, you have to adopt the following steps, depending on which platform the gateway computer is.

a. If the gateway computer is an NT/UNIX server:

You have to do the same "arp" command to specify an entry on the NT/UNIX computer as a gateway in order for it to forward your subsequent "ping" and/or "tftp" commands to the print server.

b. If the gateway computer is a Novell NetWare file server:

1. Due to the presence of this NetWare file server, the IPX/SPX protocol might be used on your network. Therefore, we strongly suggest you run the PSAdmin from any client computer and select "Manual Setup" to specify the print server's IP address.
2. If the solution described above is not applicable, you have to follow the instructions below to set up the print server's IP address:

For the purpose of explanation, we assume the NT server is on Segment A and its IP address is 192.72.214.66 (subnet mask: 255.255.255.224), the print server is going to be installed on Segment B, with an IP address of 192.72.214.100.

1. Find an unused IP address on Segment A for temporary use in the following steps, for example, 192.72.214.68.
2. Connect your print server to Segment A as a networked node.
3. On your NT server, type, for example, "arp -s 192.72.214.68 00-40-01-3F-02-AB". Please note, in this arp command you have to type 192.72.214.68 on purpose. Do not type this IP address as 192.72.214.100.
4. Type "tftp 192.72.214.68 get config.txt". The configuration file will then be retrieved and transferred to your NT server.
5. Type "edit config.txt" to modify this configuration file.
6. In your editor, modify "BoxIPAddress" field from "0.0.0.0" to "192.72.214.100." Leave the other options as default and do not change their values. When done, save this new file and quit from your editor. Please note, in this step you must specify an IP address which is valid on Segment B, such as 192.72.214.100 in this example, rather than 192.72.214.68.
7. Type, for example, "tftp 192.72.214.68 put config.txt" to save this new configuration back to print server.
8. Move the print server back to the Segment B.

Frequently Asked Questions

Print jobs are sent to the print queue successfully, but fail to be sent to the printer.

Possible explanations:

- The Print server Name/Print Queue configuration in PCONSOLE is incorrect. Check all the information in PCONSOLE.
- The Print server name specified and stored in the print server memory doesn't match the one set in PCONSOLE. Check all the information of the print server by running PSAdmin.
- The network cable or power adapter connected to the print server is loose or disconnected. Check to see that if the network cabling and power adapter are properly connected.
- The printer is off-line, jammed, or out of paper. Recheck the print server connection by running PSAdmin.

Print jobs start printing, but print very slowly or print unknown characters.

Possible explanation:

- A printer driver is missing or is incompatible with that printer. Make sure the printer drivers are correct. If these printer drivers are not available to you, please contact your printer manufacturer.

The upgrading process bar stops and does not proceed again.

Possible explanation:

- There might be a network problem causing the upgrading procedure to fail. Check the network cabling, especially from the workstation running PSAdmin to the print server unit. Run PSAdmin and upgrade the print server again.

The Status LED light keeps blinking after POST.

Possible explanation:

- The last upgrade process was not completed. The print server must be upgraded again by using the PSAdmin.

The PSAdmin reports “Create Print server Error”, “Create Printer Error”, or “Create Print Queue Error” while using Auto Setup.

Possible explanation:

- The print server name, the printer name, or the print queue name you specified in the Auto Setup dialogue box may contain a space. Type in a new name without a space between two characters or replace the space with a dash (-) or an underscore (_).

The PSAdmin reports “Print server Already Exists”, “Printer Already Exists”, or “Print Queue Already Exists” after specifying the print server name or the print queue name in Auto Setup.

Possible explanation:

- A same print server name or queue names exist in the specific NetWare file server as the one you specified in the Auto Setup dialogue box. Specify a new print server name or queue name in the Auto Setup.

Technical Specifications

Ports	PM111UW: 1 x 4-pin USB (male) PM111PW: 1 x 36-pin Centronics (male)
Standards	IEEE 802.11b, IEEE1284 (PM111PW), USB V1.1 (PM111UW)
Radio Technology	Direct Sequence Spread Spectrum (DSSS)
Radio Frequency	2.5 GHz ISM Band
Data Transfer Rate	Up to 11 Mbits/sec
Modes	Ad-Hoc and Infrastructure
Management	SNMP
LEDs	Status, WLAN
Network Protocols	TCP/IP, IPX, NetBEUI, LPR, Apple Talk
Software Drivers	Novell NetWare 3.12, 4.x, 5.x (Bindery, NDS, and NDPS), Microsoft Windows NT/2000/XP/2003
Power Adapter	3.3V (2A)
Weight	67 grams (0.15 lbs)
Dimensions	PM111UW: 2.36 x 2.75 x 0.98" (60 x 70 x 25 mm) PM111PW: 2.36 x 3.15 x 1.18" (60 x 80 x 30 mm)
Safety Standards	FCC & CE

Technical Support

The following technical resources are available for this StarTech.com product:

On-line help:

We are constantly adding new information to the *Tech Support* section of our web site. To access this page, click the *Tech Support* link on our homepage, www.startech.com. In the tech support section there are a number of options that can provide assistance with this product.

Knowledge Base - This tool allows you to search for answers to common issues using key words that describe the product and your issue.

FAQ - This tool provides quick answers to the top questions asked by our customers.

Downloads - This selection takes you to our driver download page where you can find the latest drivers for this product.

Call StarTech.com tech support for help:

USA/Canada: 1-519-455-4931

UK/Ireland/Europe: 00-800-7827-8324

Support hours: Monday to Friday 9:00AM to 5:00PM EST (except holidays)

Warranty Information

This product is backed by a one-year warranty. In addition, StarTech.com warrants its products against defects in materials and workmanship for the periods noted, following the initial date of purchase. During this period, the products may be returned for repair, or replacement with equivalent products at our discretion. The warranty covers parts and labor costs only. StarTech.com does not warrant its products from defects or damages arising from misuse, abuse, alteration, or normal wear and tear.

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